

SAFE WATER SUPPLIES - PUBLIC HEALTH STILL NEEDED

SUMMARY:

1854 – Water Pump Shutdown Stops London Cholera Outbreak

2010 – Well Water linked to *E. coli* cases in Children

Public Health interaction is timeless and priceless. Even after 156 years, the diligence of disease surveillance and investigation by Local Public Health Agencies (LPHA) is and should be one of those “givens”.

DETAILED STORY:

On May 2, 2010, local school officials called Cape Girardeau County Public Health Center, to determine necessary actions for a child that had tested positive for Shiga toxin-producing *Escherichia coli* (STEC). On the next day, the LPHA received two lab reports of children that were also positive for STEC.

The LPHA launched an investigation to determine commonalities among the children. Within three days there were four children of similar ages reported to have STEC. Interviews with the parents of the ill children revealed that all had similar onset dates and they had attended a sporting event or birthday party at a local recreational facility. Further investigation determined the only activity that was consistently noted among the children was drinking from the water fountain while at the facility.

This facility was a 70,000 square foot recreational facility that offered several activities for local children including soccer practice fields, gymnastics, tumbling and cheer, tennis and racquetball courts, and Tae Kwon Do. The facility also hosted birthday parties and included a fitness center as well as dance studios. Approximately 500 individuals moved through the facility each week. The facility was located outside city limits. The LPHA determined that it was on a private well that should have been registered as a public well.

The environmental inspection of the well revealed that it was an unchlorinated system approximately 30 years old; initial use of the well was for a private household on the property. The depth of the well was reported to be 700 feet or more. Scoping of the well by the Missouri Department of Natural Resources did not reveal any obvious breaches in the casing; however build-up of lime scale on the inner surface of the casing prevented thorough examination of the casing.

Water samples were collected and sent to a state approved laboratory and the Missouri State Public Health Laboratory. Water samples were positive for coliforms and *E. coli*, both indicators of well water contamination. In addition, specimens submitted from 28 ill individuals that had visited the facility were positive for STEC. These findings suggested the ill individuals were potentially infected by the same source, which was most likely the well water.